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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,335	06/23/2006	Woo-Yong Lee	123054-06079404	4941
23429 7590 10/13/2011 LOWE HAUPTMAN HAM & BERNER, LLP 1700 DIAGONAL ROAD SUITE 300 ALEXANDRIA, VA 22314				
EXAMINER SHIVERS, ASHLEY L				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/584,335

Applicant(s)

LEE ET AL.

Examiner

ASHLEY SHIVERS

Art Unit

2477

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Aug. 12, 2011 (Applicants' Amendment).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 20-41 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 20-41 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 23 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 10/7/2011
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on August 12, 2011 has been entered. Claims 1-19 are canceled. Claims 20-41 have been added. Claims 20-41 are still pending in this application, with claims 20, 28, 35 and 40-41 being independent.

Claim Objections

2. Claims 21, 25, 28-29, 33 and 35-36 are objected to because of the following informalities:

--Please insert a period at the end of claims 21, 25, 28-29, 33 and 35-36.

Appropriate correction is required.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated

by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 20, 22-23 and 26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of copending **Application No. 12/332001**, hereinafter referred to as '001. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application and the claims of copending application '001 are similar in scope.

Regarding claim 20, '001 teaches a method for configuring a preamble of a packet in a transmitter of a wireless local area network system, the preamble including a first preamble, the method comprising:

generating a plurality of first symbols by repeating the first symbol 16 times (**wherein N times is interpreted as 16; See Claim 1**);

generating a second symbol which is 180°-phased with respect to the first symbol (**last pattern among the patterns arranged in a reverse order of the predetermined pattern; See Claim 3**),

wherein the first preamble includes the first symbols and the second symbols subsequent to the plurality of first symbols (**See Claim 3**).

Regarding claim 22, '001 further teaches the method of claim 20, wherein the preamble further includes a second preamble subsequent to the first preamble, and the second preamble is used for channel estimation (**See Claim 4**).

Regarding claim 23, '001 further teaches the method of claim 20, wherein the second preamble includes a third symbol, a fourth symbol, and a fifth symbol, and

a length of the third symbol is equal to a length of the fourth symbol (**See Claims 2 and 4**).

Regarding claim 26, '001 further teaches the method of claim 22, wherein the preamble is used for frequency offset estimation (**See Claim 1**).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 40-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim elements "means for generating a plurality of first and second symbols, means for receiving the preamble and means for using the preamble" is a limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. The specification only mentions a transmitter and receiver but fails to disclose any structure associated with the transmitter and receiver. The drawings also fail to disclose any structure associated with the transmitter and receiver.

Applicant may:

(a) Amend the claim so that the claim limitation will no longer be interpreted as a limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant should clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 20, 28, 35, 38-39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanderperren et al. (U.S. PGPub 2004/0076246), hereinafter referred to as Vanderperren in view of Böhnke et al. (U.S. Patent No. 7,154,975), hereinafter referred to as Böhnke.

Regarding claim 20, Vanderperren teaches a method for configuring a preamble of a packet in a transmitter of a wireless local area network system, the preamble including a first preamble, the method comprising:

generating (suggested by the fact that the transmitter sends the signal to the receiver; See [0052]) a plurality of first symbols by repeating the first symbol N times (A short training sequence having 9 repetitions of a training symbol; See [0054]); and

generating a second symbol which is 180°-phased with respect to the first symbol (The tenth symbol being the inverse of the training symbol; See [0054]),

wherein the first preamble includes the first symbols and the second symbols subsequent to the plurality of first symbols (See Fig. 2B and [0054]).

Vanderperren fails to teach of the number of repetitions being 16.

Böhnke teaches of the first symbol being repeated 16 times (The reference symbol may have more than 9 repetition patterns, thereby suggesting that there could be 16 repetitions; See col. 6, lines 22-25).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren to include the first symbol having 16 repetitions taught by Böhnke in order to optimize the frequency offset estimations.

Regarding claim 28, Vanderperren teaches a method for receiving a preamble of a packet in a receiver of a wireless local area network system, the preamble including a first preamble, the method comprising:

receiving the preamble (The receiver receives the preamble; See [0053]);

and

using the preamble for synchronization (A first rough symbol timing is obtained by a synchronization machine using an output from the autocorrelation unit; See [0056]),

wherein the first preamble includes a plurality of first symbols and a second symbol subsequent to the plurality of first symbols (A short training

sequence having 9 repetitions of a training symbol. The tenth symbol being the inverse of the training symbol; See [0054]),

the first symbol is repeated N times in the plurality of first symbols (See [0054]), and

the second symbol is 180⁰-phased with respect to the first symbol (See [0054]).

Vanderperren fails to teach of the first symbol being repeated 16 times.

Böhnke teaches of the first symbol being repeated 16 times **(The reference symbol may have more than 9 repetition patterns, thereby suggesting that there could be 16 repetitions; See col. 6, lines 22-25).**

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren to include the first symbol having 16 repetitions taught by Böhnke in order to optimize the frequency offset estimations.

Regarding claim 35, Vanderperren teaches a method for receiving a preamble of a packet in a receiver of a wireless local area network system, the preamble including a first preamble, the method comprising:

receiving the packet **(The packet is received; See [0053]);** and

detecting the preamble from the packet **(The receiver detects the preamble; See [0053]-[0054]),**

wherein the first preamble includes a plurality of first symbols and a second symbol subsequent to the plurality of first symbols (**A short training sequence having 9 repetitions of a training symbol. The tenth symbol being the inverse of the training symbol; See [0054]**),

the first symbol is repeated N times in the plurality of first symbols (See [0054]), and

the second symbol is 180⁰-phased with respect to the first symbol (See [0054]).

Vanderperren fails to teach of the first symbol being repeated 16 times.

Böhnke teaches of the first symbol being repeated 16 times (**The reference symbol may have more than 9 repetition patterns, thereby suggesting that there could be 16 repetitions; See col. 6, lines 22-25**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren to include the first symbol having 16 repetitions taught by Böhnke in order to optimize the frequency offset estimations.

Regarding claim 38, Vanderperren further teaches the method of claim 35, wherein the second preamble includes a third symbol, a fourth symbol, and a fifth symbol, and

a length of the third symbol is equal to a length of the fourth symbol (**The long training sequence includes 3 parts, a guard interval and two long training fields, wherein the two long training fields are each 3.2microsec.; See Fig. 2B and [0054]).**

Regarding claim 39, Vanderperren further teaches the method of claim 38, wherein a length of fifth symbol is shorter than the length of third symbol (**The guard interval is 1.6microsec.; See [0054]).**

Regarding claim 41, Vanderperren teaches a receiver of a wireless local area network system for receiving a preamble of a packet, the preamble including a short preamble, the receiver comprising:

means for receiving (receiver; See Fig. 1, #3 and [0051]) the preamble (**The receiver receives the preamble; See [0053]); and**

means for using the preamble (synchronization machine; See Fig. 3, #20) for synchronization (**A first rough symbol timing is obtained by a synchronization machine using an output from the autocorrelation unit; See [0056]),**

wherein the first preamble includes a plurality of first symbols and a second symbol subsequent to the plurality of first symbols (**A short training**

sequence having 9 repetitions of a training symbol. The tenth symbol being the inverse of the training symbol; See [0054]),

the first symbol is repeated N times in the plurality of first symbols (See [0054]), and

the second symbol is 180⁰-phased with respect to the first symbol (See [0054]).

Vanderperren fails to teach of the first symbol being repeated 16 times.

Böhnke teaches of the first symbol being repeated 16 times **(The reference symbol may have more than 9 repetition patterns, thereby suggesting that there could be 16 repetitions; See col. 6, lines 22-25).**

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the receiver of Vanderperren to include the first symbol having 16 repetitions taught by Böhnke in order to optimize the frequency offset estimations.

10. Claims 21, 29 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanderperren in view of Böhnke in further view of Suh et al. (U.S. PGPub 2004/0066740), hereinafter referred to as Det_Suh.

Regarding claim 21, Vanderperren in view of Böhnke teaches the method of claim 20, but fails to teach of the first symbol being generated using a sequence composed of +1 and -1.

Det_Suh teaches of the first symbol being generated using a sequence composed of +1 and -1 (See [0093]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren in view of Böhnke to include the first symbol being generated using a sequence composed of +1 and -1 taught by Det_Suh in order to perform coarse frequency estimations.

Regarding claim 29, Vanderperren in view of Böhnke teaches the method of claim 28, but fails to teach of the first symbol being generated using a sequence composed of +1 and -1.

Det_Suh teaches of the first symbol being generated using a sequence composed of +1 and -1 (See [0093]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren in view of Böhnke to include the first symbol being generated using a sequence composed of +1 and -1 taught by Det_Suh in order to perform coarse frequency estimations.

Regarding claim 36, Vanderperren in view of Böhnke teaches the method of claim 35, but fails to teach of the first symbol being generated using a sequence composed of +1 and -1.

Det_Suh teaches of the first symbol being generated using a sequence composed of +1 and -1 (See [0093]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren in view of Böhnke to include the first symbol being generated using a sequence composed of +1 and -1 taught by Det_Suh in order to perform coarse frequency estimations.

11. Claims 22-24, 26-27, 30-32, 34 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanderperren in view of Böhnke in further view of Zhu et al. (U.S. PGPub 2004/0004933), hereinafter referred to as Zhu.

Regarding claim 22, Vanderperren further teaches the method of claim 20, wherein the preamble further include a second preamble subsequent to the first preamble (Long training sequence; See [0054]), but fails to teach of the second preamble being used for channel estimation. Vanderperren in view of Böhnke also fails to teach of the above limitation.

Zhu teaches of the long preamble being used for channel estimation (See [0019]-[0020]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren in view of Böhnke to include the second preamble being used for channel estimation taught by Zhu in order successfully receive and decode the actual data bits.

Regarding claim 23, Vanderperren further teaches the method of claim 22, wherein the second preamble includes a third symbol, a fourth symbol, and a fifth symbol,

and a length of the third symbol is equal to a length of the fourth symbol
(The long training sequence includes 3 parts, a guard interval and two long training fields, wherein the two long training fields are each 3.2microsec.; See Fig. 2B and [0054]).

Regarding claim 24, Vanderperren further teaches the method of claim 23, wherein a length of fifth symbol is shorter than the length of third symbol (The guard interval is 1.6microsec.; See [0054]).

Regarding claim 26, Vanderperren further teaches the method of claim 22, wherein the preamble is used for frequency offset estimation (A first rough carrier frequency offset is obtained by the frequency offset estimation unit using an output of the autocorrelation unit; See [0056]).

Regarding claim 27, Vanderperren further teaches the method of claim 22, wherein the preamble is used for synchronization (A first rough symbol timing is

obtained by a synchronization machine using an output from the autocorrelation unit; See [0056]).

Regarding claim 30, Vanderperren further teaches the method of claim 28, wherein the preamble further includes a second preamble subsequent to the first preamble (**Long training sequence; See [0054]**), but fails to teach of the second preamble being used for channel estimation. Vanderperren in view of Böhnke also fails to teach of the above limitation.

Zhu teaches of the long preamble being used for channel estimation (**See [0019]-[0020]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren in view of Böhnke to include the second preamble being used for channel estimation taught by Zhu in order successfully receive and decode the actual data bits.

Regarding claim 31, Vanderperren further teaches the method of claim 30, wherein the second preamble includes a third symbol, a fourth symbol, and a fifth symbol, and

a length of the third symbol is equal to a length of the fourth symbol (**The long training sequence includes 3 parts, a guard interval and two long training**

fields, wherein the two long training fields are each 3.2microsec.; See Fig. 2B and [0054]).

Regarding claim 32, Vanderperren further teaches the method of claim 30, wherein a length of the fifth symbol is shorter than the length of third symbol (**The guard interval is 1.6microsec.; See [0054]**).

Regarding claim 34, Vanderperren further teaches the method of claim 30, wherein the preamble is used for frequency offset estimation (**A first rough carrier frequency offset is obtained by the frequency offset estimation unit using an output of the autocorrelation unit; See [0056]**).

Regarding claim 37, Vanderperren further teaches the method of claim 35, wherein the preamble further includes a second preamble subsequent to the first preamble (**Long training sequence; See [054]**), but fails to teach of the second preamble being used for channel estimation. Vanderperren in view of Böhnke also fails to teach of the above limitation.

Zhu teaches of the long preamble being used for channel estimation (**See [0019]-[0020]**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren in view of Böhnke to

include the second preamble being used for channel estimation taught by Zhu in order successfully receive and decode the actual data bits.

12. Claims 25 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanderperren in view of Böhnke and Zhu in further view of the prior art of Suh et al. (U.S. PGPub 2004/0066740), hereinafter referred to as PR_Suh.

Regarding claim 25, Vanderperren in view of Böhnke and Zhu teaches the method of claim 23, but fails to teach of the third symbol, the fourth symbol,, and the fifth symbol being generated using a sequence composed of +1 and -1.

PR_Suh teaches of the third symbol, the fourth symbol, and the fifth symbol being generated using a sequence compose of +1 and -1 (See [0014]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren in view of Böhnke and Zhu to include the third symbol, the fourth symbol, and the fifth symbol being generated using a sequence compose of +1 and -1 taught by PR_Suh in order to determine the frequency domain characteristics to perform frequency synchronization and channel estimation.

Regarding claim 33, Vanderperren in view of Böhnke and Zhu teaches the method of claim 32, but fails to teach of the third symbol, the fourth symbol, and the fifth symbol being generated using a sequence compose of +1 and -1.

PR_Suh teaches of the third symbol, the fourth symbol, and the fifth symbol being generated using a sequence compose of +1 and -1 (See [0014]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Vanderperren in view of Böhnke and Zhu to include the third symbol, the fourth symbol, and the fifth symbol being generated using a sequence compose of +1 and -1 taught by PR_Suh in order to determine the frequency domain characteristics to perform frequency synchronization and channel estimation.

13. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vanderperren in view of Böhnke in further view of Kelley et al. (U.S. PGPub 2005/0135432), hereinafter referred to as Kelley.

Regarding claim 40, Vanderperren teaches of a transmitter of a wireless local area network system for configuring a preamble of a packet, the preamble including a short preamble, the transmitter configured to:

generate (suggested by the fact that the transmitter sends the signal to the receiver; See [0052]) plurality of first symbols by repeating the first symbol N times (A short training sequence having 9 repetitions of a training symbol; See [0054]);

generate a second symbol which is 180⁰-phased with respect to the first symbol (**The tenth symbol being the inverse of the training symbol; See [0054]**),

wherein the short preamble includes the first symbols and the second symbols subsequent to the plurality of first symbols (**See Fig. 2B and [0054]**).

Vanderperren fails to teach of the number of repetitions being 16.

Böhnke teaches of the first symbol being repeated 16 times (**The reference symbol may have more than 9 repetition patterns, thereby suggesting that there could be 16 repetitions; See col. 6, lines 22-25**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the transmitter of Vanderperren to include the first symbol having 16 repetitions taught by Böhnke in order to optimize the frequency offset estimations.

Vanderperren in view of Böhnke still fails to teach of the means within the transmitter.

Kelley teaches of the transmitter comprising a symbol generator (**See Fig. 1, #113**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the transmitter of Vanderperren in view of Böhnke to include the transmitter comprising a means for generating taught by Kelley in order to provide the components used.

Response to Arguments

14. Applicant's arguments with respect to claims 20-41 have been considered but are moot in view of the new ground(s) of rejection.

With regards to the newly amended claims, Examiner has introduced Vanderperren et al. (U.S. PGPub 2004/0076246), hereinafter referred to as Vanderperren in view of Böhnke et al. (U.S. Patent No. 7,154,975), hereinafter referred to as Böhnke to teach of the first symbol being repeated 16 times (Böhnke - See col. 6, lines 22-25).

Conclusion

15. Any response to this action should be **faxed** to (571) 273-8300 or **mailed** to:

Commissioner of Patents,
P.O. Box 1450
Alexandria, VA 22313-1450

Hand delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHLEY SHIVERS whose telephone number is (571)270-3523. The examiner can normally be reached on Monday-Friday 8:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on (571) 272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. S./
Examiner, Art Unit 2477
10/8/2011

/Gregory B Sefcheck/
Primary Examiner, Art Unit 2477
10-11-2011